



**SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS**

Substantive Program Modification Form

UNIVERSITY:	SDSU
CURRENT PROGRAM TITLE:	Applied Statistics Minor
CIP CODE:	27.0501
UNIVERSITY DEPARTMENT:	Mathematics & Statistics
UNIVERSITY DIVISION:	Jerome J Lohr College of Engineering

University Approval

To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

 Dennis D. Hedge
 Vice President of Academic Affairs or
 President of the University

 3/27/2019
 Date

1. This modification addresses a change in:

- | | |
|---|--|
| <input type="checkbox"/> Total credits required within the discipline | <input type="checkbox"/> Total credits of supportive course work |
| <input type="checkbox"/> Total credits of elective course work | <input type="checkbox"/> Total credits required for program |
| <input checked="" type="checkbox"/> Program name | <input type="checkbox"/> Existing specialization |
| <input type="checkbox"/> CIP Code | <input type="checkbox"/> Other (explain below) |

2. Effective date of change: 2019-2020 Academic Year

3. Program Degree Level: Associate Bachelor's Master's Doctoral

4. Category: Certificate Specialization Minor Major

5. If a name change is proposed, the change will occur:

- On the effective date for all students
- On the effective date for students new to the program (enrolled students will graduate from existing program)

Proposed new name: **Data Science Minor**

6. Primary Aspects of the Modification:

<i>Existing Curriculum</i>				<i>Proposed Curriculum (highlight changes)</i>			
Pref.	Num	Title	Cr. Hrs	Pref.	Num.	Title	Cr. Hrs
				STAT	101	Introduction to Data Science	3
STAT OR STAT	281	Introduction to Statistics (3)	3	STAT OR STAT	281	Introduction to Statistics (3)	3
	381	Introduction to Probability and Statistics (3)			381	Introduction to Probability and Statistics (3)	
STAT	441	Statistical Methods II	3	STAT	441	Statistical Methods II	3
STAT	442	Exploratory Data Analysis	3	STAT	442	Exploratory and Cloud Based Data Analysis	3
		Select 9 credits from the following.				Select 9 credits from the following.	
ECON	423	Introduction to Econometrics	3	ECON	423	Introduction to Econometrics	3
ECON	453	Risk Management - Personal and Business	3	ECON	453	Risk Management - Personal and Business	3

<i>Existing Curriculum</i>				<i>Proposed Curriculum (highlight changes)</i>			
Pref.	Num	Title	Cr. Hrs	Pref.	Num.	Title	Cr. Hrs
GEOG	382	Quantitative Research Methods in Geography & Lab	3	GEOG	382	Quantitative Research Methods in Geography & Lab	3
				INFO	101	Introduction to Informatics	3
POLS	388	Research Methods	3	POLS	388	Research Methods	3
PSYC	477	Psychology Testing and Measurement	3	PSYC	477	Psychology Testing and Measurement	3
SOC	307	Research Methods I	3	SOC	307	Research Methods I	3
SOC	308	Research Methods II	3	SOC	308	Research Methods II	3
STAT	383	Geospatial Data Analysis	3	STAT	383	Geospatial Data Analysis	3
STAT	410	SAS Programming I	3	STAT	410	SAS Programming I	3
STAT	414	Basic R Programming	1	STAT	414	Basic R Programming	1
STAT	415	R Programming	3	STAT	415	R Programming	3
STAT	435	Applied Bioinformatics	3	STAT	435	Applied Bioinformatics	3
				STAT	441	Statistical Methods II	3
STAT	445	Nonparametric Statistics	3	STAT	445	Nonparametric Statistics	3
STAT	451	Predictive Analytics I	3	STAT	451	Predictive Analytics I	3
STAT	453	Applied Bayesian Statistics	3	STAT	453	Applied Bayesian Statistics	3
STAT	460	Time Series Analysis	3	STAT	460	Time Series Analysis	3
Total number of hours required for the minor			18	Total number of hours required for the minor			18

7. Explanation of the Change:

The revisions to the Minor in Applied Statistics will expand and update the course list to reflect pertinent courses created or modified since the minor was created. The resulting minor would more accurately be named Data Science than Applied Statistics. The minor will continue to serve the existing audience and expand its relevance to new student audiences. This would be a positive change in our data-intensive world.

The changes to the minor include:

- STAT 441 Statistical Methods II realigned from the required course to elective course list.
- STAT 101 Introduction to Data Science was added to the required course list to replace STAT 441. STAT 101 provides students an introduction to applications of data science, including data modeling and visualization.
- INFO 101 Introduction to Informatics was added to the elective course list.
- STAT 442 Exploratory Data Analysis was renamed Exploratory and Cloud-Based Data Analysis. Cloud-based methods are already used in the course. The addition of this term to the course title increases its value when potential employers of graduates see this course on a transcript.